



Precision Agriculture Solution

[Precision • Professional]



Agriculture Machinery Auto-steering System

Based on the advantages in the satellite navigation and positioning field, as a pioneer in the agriculture high precision application field, through several years accumulation, research & development, innovation and progress, eSurvey has developed the first Agriculture Machinery Auto-steering System with complete proprietary intelligent property. All of the fundamental products, including chips, boards, antennas, portable and fixed base stations, display terminal and ECU, have realized independent research & development and production, and filled the blank of domestic GNSS-based automatic driving system.



Increase effective arable acreage, decrease the waste of land



Even row spacing, improve output, increase profit



No overlay and miss of seeding, save time and labor



Visible display. Available for night working



Automatic turning, greatly reduce labor intensity of the driver

Auto-steering System -- Technical Innovation



Simplified Calibration Steps. Piecewise linearization technologies simplify the calibration procedure to 3 steps.



Short Up-line Distance. Up-line distance is less than 15m, fast automatic reversing up-line distance is less than 10m.



No start-up swaying. Through GNSS positioning and heading, and 9 axis MEMS sensor integrated technology, fix the heading, no start-up swaying.



Double Straight Line Mode. First double straight line mode in the industry, meeting multiple operation modes' requirements including diagonal line, zigzag type, hollow square type, etc.



Easy software upgrading. One key software upgrading, supporting remote upgrading.



High security. Data double backup storage, automatically cancel automatic driving, real-time security prompts, etc. in case of danger.



No Control Accuracy Step Change, when the RTK differential signal lost.



Application in Different Operations



Ridging



Ploughing



Seeding



Raking



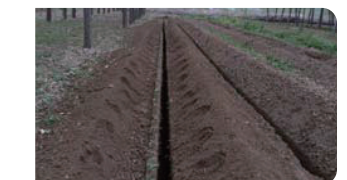
Rotary Cultivation



Spraying



Harvest



Ditching

Hydraulic Agriculture Machinery Automatic Driving System

- Open valve and close valve solutions, can adapt to a variety of Chinese and International brands and models of agricultural machinery;
- High system precision, can reach 2.5 cm accuracy easily;
- Exclusive electronic and hydraulic safety protection mechanisms for increased safety;
- Double balance valve and proportional valve with pressure compensation, stable control and high reliability;
- Hall effect angle sensor is used to provide a wide angle range for easier installation.



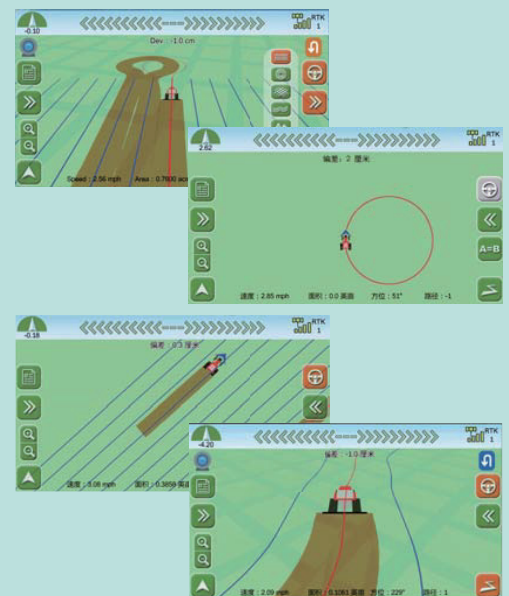
EAS100 Auto-steering System

- Small size, large torque, high power density, wide adaptability, adapt to a variety of agricultural machinery;
- Fast and precise steering response and control;
- High automatic driving accuracy, easily reaching 2.5cm;
- Easy to install. No need to modify the original hydraulic line. And easy to transfer among vehicles;
- One-button switching between manual and automatic driving modes.



Automatic Driving Display&Control Software

- Intuitive map interface: switch between vehicle mode, 3D mode and map mode;
- Rich path mode: AB straight line, diagonal line, AB curve and circular curve;
- Automatic U-turn: It can control the agricultural machine to automatically drive to adjacent lines or other lines according to the specified turning radius;
- Comprehensive job management: realize the operation of recording, viewing, importing and exporting job data, and closing and deleting jobs;
- Agricultural machinery and farm implement management: It is easy and convenient to set and view the parameters of agricultural machinery and implements;
- Easily surveying: It can measure the working area without weighing, and can also measure the land area around the circle to achieve accurate grasp of the farmland area;
- Rights management: User and administrator modes make job data more secure;
- Support hydraulic and electric steering wheel control mode;
- It can be connected to the intelligent agricultural machinery information platform to support the cloud platform obstacle avoidance function;
- Support WIFI, 4G, support Ntrip connection;
- Support video input.



Variable Control System VRS100

Soils in different geographical locations in farmland have different characteristics. There are also certain differences in crop growth and farmland environment. Variables are used to input agricultural materials such as fertilizers, pesticides and seeds to improve the utilization rate of agricultural materials, reduce agricultural production costs, and improve the economy. , environmental and social benefits.

The variable controller can realize the amount of fertilizer application, the amount of pesticide application, the amount of irrigation, the depth of ploughing, the seeding amount and density and depth, the cultivating operation, and the harvesting and measuring production.

Precision Sowing & Fertilizing

The fertilization control based on the prescription map is based on the fertilization information of the prescription map after decision analysis. According to the different requirements of the field, the localization and regulation of the fertilization amount is carried out, and the different formulas and different amounts of mixed fertilizer are applied in a targeted manner, and the soil test results, the location of the land and the variety of different crops are determined by the amount of fertilizer applied.



Variable Spraying

As an important part of precision agriculture technology, pesticide variable spraying technology automatically completes the dosage of chemical agents, automatically adjusts the pressure of spraying and accurately targets the application according to different types of crops and quantities. Real-time dynamics of the target object, selective alignment of the weed area, and automatic adjustment of the spray rate of the nozzle to achieve accurate and variable purposes.



ISOBUS Technology

In the field of precision agriculture, eSurvey is the only company in China that has obtained AEF certification.



Satellite Navigation Assisted Driving System GS10

The product sets positioning, navigation, surveying, operation management and data management all in one, widely used in agricultural operation modes such as spraying, spreading and harvesting. This system combines GNSS positioning data with agricultural driving operations. Guide the vehicle to drive accurately according to the established route, prevent re-spraying and leaking, visualize the interface display, so that it can still work at night, improve work efficiency, save operation cost and reduce manpower burden.

Compared with similar products, there are obvious advantages. Product design starts from the user, the product meets the complex environment of agricultural operation, ensures long-term stable work, and has the ability to receive Atlas (satellite-based enhanced high-precision positioning system) signals, which can reach positioning accuracy 25cm (RMS) in a single machine.

The product design is highly integrated, the installation is simple and convenient. The product is stable and reliable, and the operation is simple, which saves the user from maintenance troubles. Excellent performance has brought new choices to agricultural machinery. Behind the performance is the affordable price and excellent after-sales experience.

The product has a rich communication interface and supports various communication protocols such as SAE J1939 and ISO11783. It can easily establish communication with agricultural machinery and implement automatic segmentation control, data management and variable control.

■ High cost performance

The system integrates positioning, navigation and surveying with perfect functions and high price-performance ratio.

■ Sub-meter positioning

The system can receive BDS, GPS, GLONASS satellite signals, Atlas (satellite-based augmentation system) and SBAS differential signals, and easily realize navigation from sub-meter to centimeter level.

■ Simple and easy to install

The whole system includes display terminal and GNSS integrated antenna, which has high product design integration and is convenient for users to install and organize.

■ Stable maintenance free

The product design meets the requirements of the agricultural working environment, the system is configured in the mainstream, the work is stable and reliable, and the user is relieved of maintenance troubles.

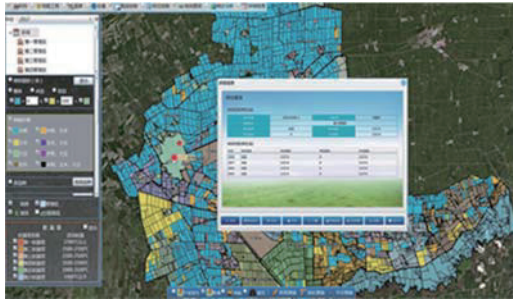
■ Wide range of applications

The products have been used in agricultural operation modes such as spraying, spreading and harvesting in domestic and foreign countries, and have excellent working effects.



Intelligent Agriculture

Constructing an agriculture big data cloud platform, serving the whole industry chain. Innovating application block-chain technologies, creating an agriculture product quality security traceability system covering planting, management, harvesting, processing, logistics and sale, integrating data from space, air, ground, people and machine, to realize intelligent manufacture, digital management, network operation, online service, precise tracing, and to push forward the agriculture structural innovation, brand building, quality improvement, and output increase.



Agriculture Information



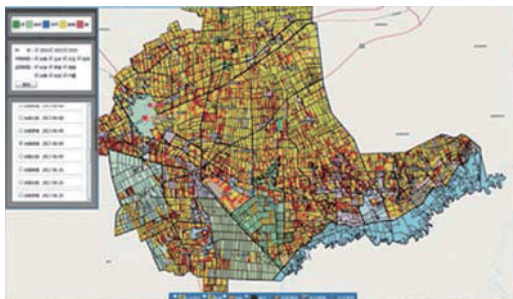
Agriculture IoT



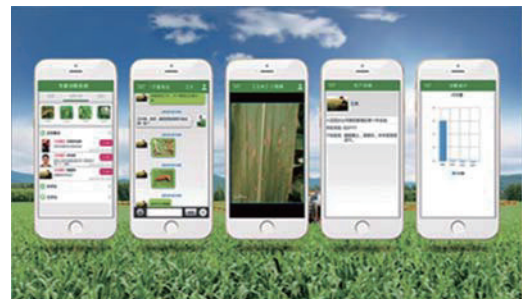
Agriculture Big Data



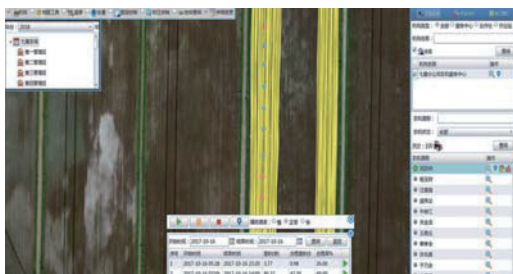
Precise Traceability on Quality & Safety of the Entire Industry Chain



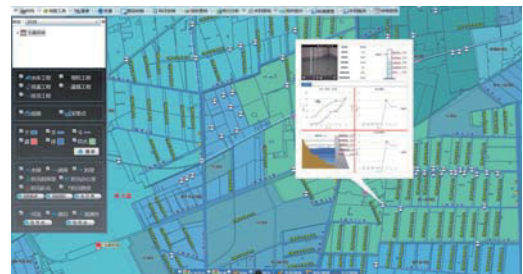
Remote Monitoring



Agricultural Machinery Service



Precise and Smart Agricultural Machinery Management



Water Project

Multiple Differential Signal Sources

Portable RTK Base Station

- IP 66, water proof, dust proof, good performance in harsh outdoor environment
- Integrated design, easy to carry, suitable for cross-regional work
- 9-36V DC power, can be powered by a variety of vehicle power supplies
- Support external battery to operate continuously, not affected by external power supply factors
- Support multi-GNSS integrated positioning
- Easy to install, and can be placed on the ground through a tripod
- Built-in data transmitting radio, providing multiple frequency bands



Fixed Base Station

- Long effective broadcasting distance, up to a radius of 15km
- With UPS and battery, easy to cope with sudden power failure and other unexpected situations
- With wide band, multi-GNSS, dual frequency or multi-frequency 3D choke antenna to realize outstanding anti-interference, anti-multipath, and low elevation satellite tracking performance



CORS

- Transmission through internet
- Wide coverage through VRS differential technology, both inside and outside the network. No broadcasting distance limitation
- eSurvey can provide CORS construction products and service. Accessing other CORS networks through the Ntrip is an alternative option



Atlas

- A global satellite based high precision augmentation system
- Providing convenient sub-meter, decimeter and centimeter level precision services without base station
- Master all independent intellectual property and all control rights to ensure information security autonomy
- Broadcasting differential data via geostationary satellites' L-band transponder or NTRIP



Atlas Service Type	Atlas Basic	H30	H10
Accuracy	±25 cm (RMS)	±15 cm (RMS)	±4 cm (RMS)
Application	Cultivating, spraying, planting and harvesting of forage	Cultivating, spraying, sowing, harvesting	Cultivating, ridging, spraying, sowing, harvesting, planting, etc.
Coverage	Global	Global	Global

Service and Support

Professional

eSurvey is the first company entered the precision agriculture sector in China. Its technical support team has more than 100 members. Through several years' application and practice, rich on-site experience have been accumulated. eSurvey's technical support personnel are all professionally trained. They will push forward the modernization of agriculture and bring benefits to farmers with professional attitudes and actions.

Concentration

We are focusing on Precision Agriculture, satellite navigation, automatic driving, customers and services.

Vitality

A young and viable technical support team.

Improvement

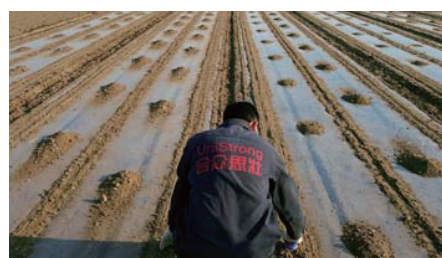
We are good at listening to customers' demands and suggestions, which is the motivation to make us keep improving.

Perfection

We have perfect and unimpeded accessory supply channel, advanced service system and extensive service network.

Visionary

We come from all over the world and share the same vision --- building a professional, concentrated, and effective service team.



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